FIG 1 (Front View)

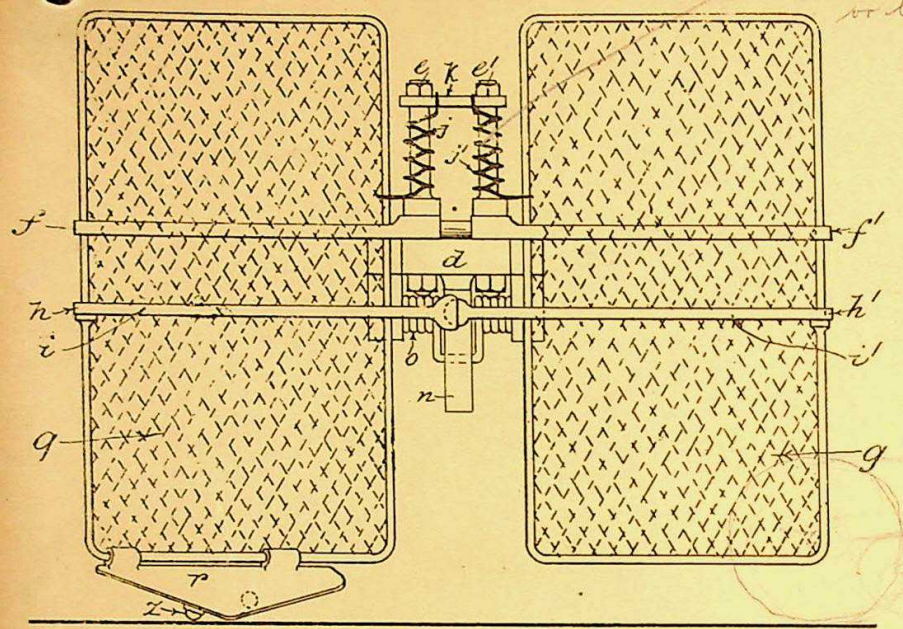


FIG 2 (Side Elevation of Fig 1)

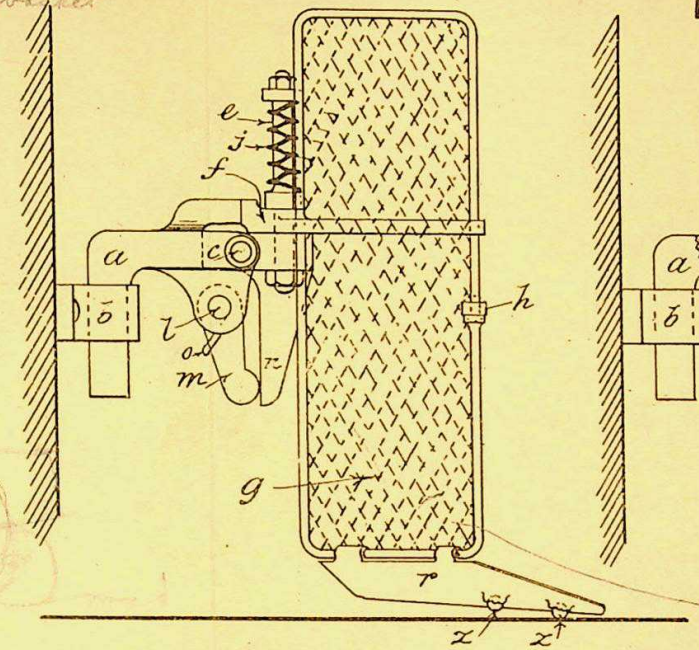


FIG 3

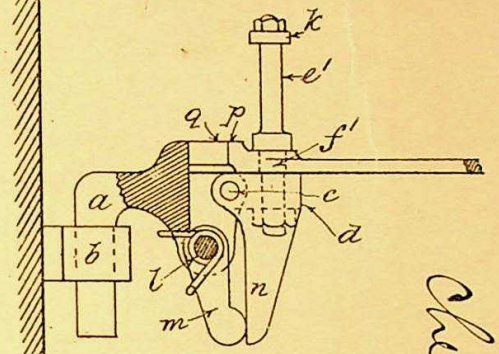


FIG 4 (Plan of Fig 1)

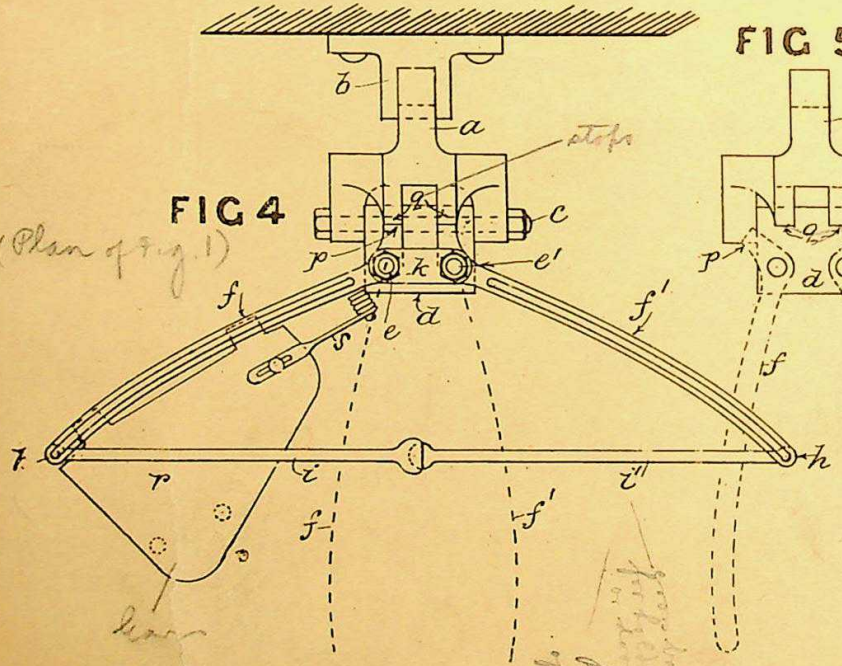


FIG 5

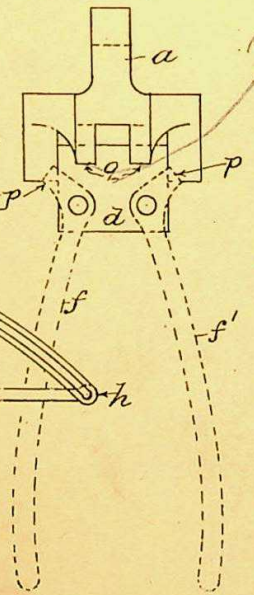


FIG 6

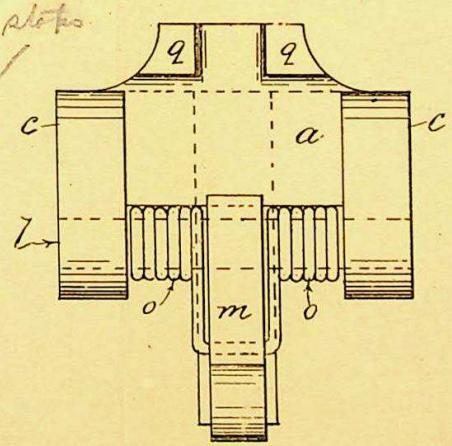


FIG 7

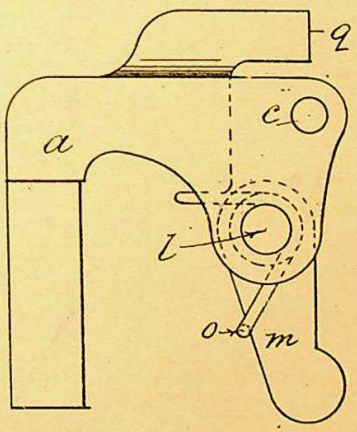


FIG 8

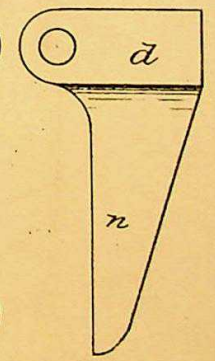
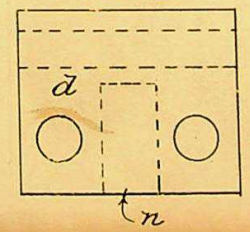


FIG 9



The two frames or sides of the network or basket are capable of an horizontal swivel motion towards or from each other

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288. VEHICLE FENDERS.

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[This Drawing is a reproduction of the Original on a reduced scale.]

FIG 10

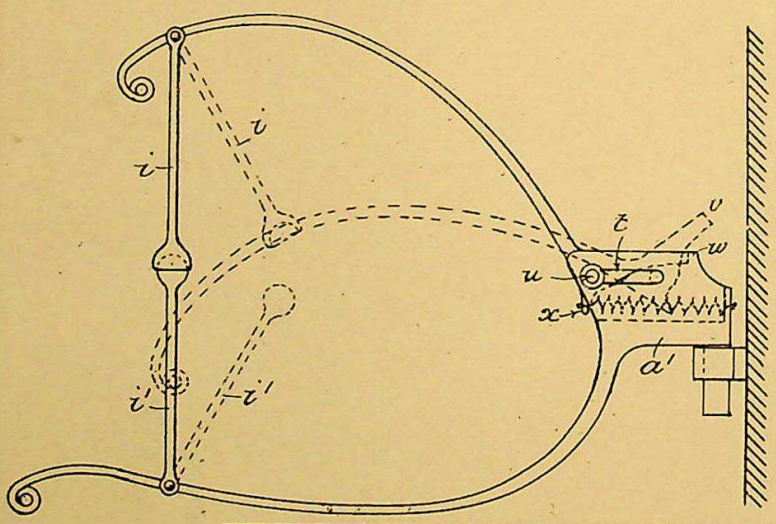


FIG 11

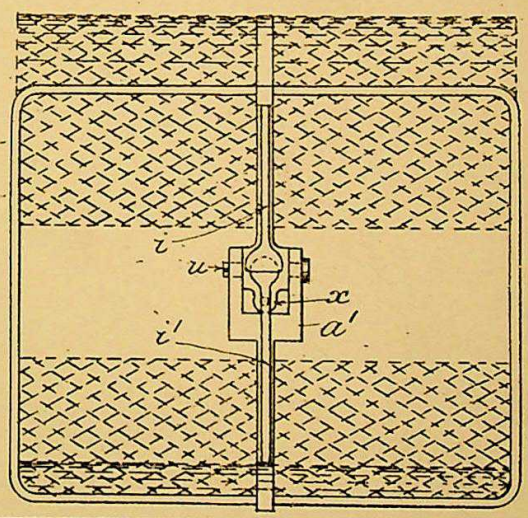
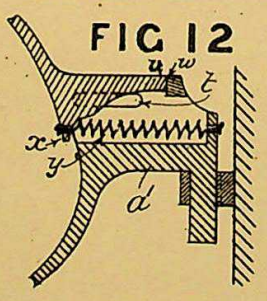


FIG 12



Date of Application, 26th Aug., 1887
Complete Left, 26th May, 1888
Complete Accepted, 29th June, 1888

A.D. 1887, *26th August.* N° 11,592.

PROVISIONAL SPECIFICATION.

Improvements in Life Saving Apparatus for Steam or other Locomotive Engines, Cars, or other Vehicles.

I JOHN CHESHIRE of No. 43 Wheeler Street, Hockley Birmingham, in the county of Warwick, Machinist do hereby declare the nature of this invention to be as follows :—

This invention relates to apparatus used for saving life or preventing accidents in connection with steam or other locomotive engines, cars, or other vehicles, and is principally intended for use in connection with road motors or cars, such as steam or cable cars &c.

The object of my improvements is to provide what may be termed a net or basket catcher, worked by springs, which when in ready action, such net or basket, or its equivalent, is held extended by means of a releasing catch, which said catch comes in contact with the object in danger, when it is released, the springs instantly closing such net or basket around the object, and lifting it from the ground, carrying it forward in its grasp.

It would consist of mechanism somewhat thus :—A strong bracket or base upon which the mechanism is mounted or carried, would be hung upon or attached to the front of the Engine &c., and near to the ground. At or near its lower part I form a joint, whose axis lies in the horizontal plane. Working in or upon this joint is a swivel block, and upon this swivel block, I form two other joints, at a little distance from each other whose axis lies in the vertical plane. (I may only use one joint instead of two, but prefer two.)

Upon each of these two joints I mount a skeleton frame work, which is made up or completed by net work or other suitable material, and further padded if desired, upon its inside parts.

Thus these two frames or sides of the net work or basket, are capable of a swivel motion, towards and from each other horizontally, and the both combined, together with the swivel block aforesaid, is capable of a vertical motion. I further provide a catch motion, whereby the two sides are held extended or open, when in use, after the manner following :—

Attached to each side, and generally from beneath, at their outward end, I provide

a swing arm, working upon a joint horizontally, and each of their free ends capable of touching and meeting each other in the centre, when the sides are distended, such free ends being formed into a ball and socket, so that when thus engaged with each other, they shall form a straight line. I next provide and attach springs, which strongly tend to close such sides together. This may be done by spiral springs, one on either side. Also I attach one or more springs (generally two) which shall tend strongly to lift the front of the basket apparatus working upon the swivel block joint, but which lifting is prevented, while the sides are distended, by reason of a portion of their working joints passing underneath suitable projections upon the base bracket, but when the sides have moved through a certain distance, such portions are free of such projections, and subject to the pull of the springs.

In some instances in addition to the foregoing, I may provide what may be termed a scoop which would be controlled by the driver or attendant, and which, by a lever or levers, would be thrust forward at will, and advance close or near the ground in order to gather up any obstruction lying upon the ground, and then lifted or thrown by means of the lever or levers, into the basket arrangement.

Thus the action of the apparatus would be somewhat as follows :—The sides being distended and there held by the ball and socket ended arms, or their equivalents, the apparatus would be ready for action.

Upon meeting with an obstruction, say for instance, a person who could not get out of the way in time, such person would come in contact first with the distending arms, which would at once release such a catch motion, when the springs would immediately close the sides together, embracing within its folds the person, and at the same time the vertical springs would then lift such person off the ground and carry it forward, until released therefrom.

I may attach one or more of such apparatus to the Engine or car &c. as may be desired.

Dated this 11th day of October 1887.

CHARLES T. POWELL,
4, Cherry Street, Birmingham,
Applicant's Agent.

COMPLETE SPECIFICATION.

Improvements in Life Saving Apparatus for Steam or other Locomotive Engines, Cars, or other Vehicles.

I JOHN CHESHIRE of No. 43 Wheeler Street, Hockley, Birmingham, in the county of Warwick Machinist do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement :—

This invention relates to apparatus used for saving life or preventing accidents in connection with steam or other locomotive engines, or cars, or other similar vehicles, and is principally intended for use in connection with road motors or cars, such as steam or cable cars &c.

The object of my improvements is to provide what may be termed a net or basket catcher, worked by springs, which when in ready action, such net or basket, or its equivalent, is held extended by means of a releasing catch, which said catch comes in contact with the object in danger, when it is released, the springs instantly closing such net or basket around the object, and lifting it from the ground, carrying it forward in its grasp.

It would consist of mechanism somewhat thus :—A strong bracket or base upon which the mechanism is mounted or carried, would be hung upon or attached to the front of the Engine &c., and near to the ground. At or near its lower part I form a joint, whose axis lies in the horizontal plane. Working in or upon this joint is a swivel block, and upon this swivel block, I form two other joints, at a little distance from each other, whose axis lies in the vertical plane. (I may only use one joint instead of two, but prefer two).

Upon each of these two joints I mount a skeleton frame work, which is made up or completed by net work or other suitable material, and furthur padded if desired upon its inside parts.

Thus these two frames or sides of the net work or basket, are capable of a swivel motion, towards and from each other horizontally, and the both combined, together with the swivel block aforesaid, is capable of a vertical motion. I further provide a catch motion, whereby the two sides are held extended or open, when in use, after the manner following :—

Attached to each side and generally from beneath, at their outward end, I provide a swing arm, working in a joint horizontally, and each of their free ends capable of touching and meeting each other in the centre, when the sides are distended, such free ends being formed into a ball and socket, so that when thus engaged with each other, they shall form near a straight line. I next provide and attach springs, which strongly tend to close such sides together. This may be done by spiral springs, one on either side. Also I attach one or more springs (generally two) which shall tend

strongly to lift the front of the basket apparatus working upon the swivel block joint, but which lifting is prevented, while the sides are distended, by reason of a portion of their working joints passing against suitable projections upon the base bracket, but when the sides have moved through a certain distance, such portions are free of such projections, and subject to the pull of the springs.

Thus the action of the apparatus would be somewhat as follows:—The sides being distended and there held by the ball and socket ended arms, or their equivalents, the apparatus would be ready for action.

Upon meeting with an obstruction, say for instance, a person who could not get out of the way in time, such person would come in contact first with the distending arms, which would at once release such a catch motion, when the springs would immediately close the sides together, embracing within its folds the person, and at the same time the vertical action of the springs would then lift such person off the ground, and carry it forward until released therefrom.

I may attach one or more of such apparatus to the Engine or car &c, as may be desired.

I will now proceed to further more clearly explain this my invention having reference to the accompanying drawings upon which are figures and letters of reference, like letters referring throughout the several views to the same thing or part, and in which—

Fig. 1 shews a front view of this my invention.

Fig. 2 is a side elevation of Fig. 1.

Fig. 3 is a part sectional elevation of Fig. 1.

Fig. 4 is a plan of Fig. 1.

Fig. 5 is a part plan of Fig. 1 shewing distending arms closed.

Fig. 6 is a front elevation in detail of base bracket with lifting spring and lever.

Fig. 7 is a side elevation of Fig. 6.

Fig. 8 is an elevation in detail of swivel block.

Fig. 9 is a plan of Fig. 8.

Fig. 10 is a side elevation of a modification of this my invention.

Fig. 11 a front view of Fig. 10, and,

Fig. 12 a part sectional elevation of Fig. 10.

a is a strong bracket or base upon which the mechanism is carried, which is hung upon or attached to the vehicle by means of the socket *b*. At or near its lower part I form a joint *c*, and working in or upon this joint is a swivel block *d*.

To this swivel block *d*, I attach two upright pins *e*, e^1 which at their lower ends, immediately above the swivel block, serve to form joints for the horizontal arms *f*, f^1. Upon these two arms I construct a skeleton framework of any suitable shape or size, and which is made up or completed by net work *g*, or other suitable material, and further padded if desired.

Thus these two frames or sides of the net work or basket, are capable of an horizontal swivel motion, towards or from each other; and both these said arms together with the swivel block *d*, aforesaid is capable of a vertical hinge or swivel motion by reason of the joint *c*.

I further provide a catch motion whereby the two sides or arms *f*, f^1 are held extended or open after the manner following:—Attached to each side and working upon joints at *h*, h^1 are swing distending arms *i*, i^1 having their free ends formed into a ball and socket shape, and of a suitable length to allow of their free ends meeting each other in the centre when the arms *f*, f^1 are distended and forming approximately a straight line.

I next provide and attach springs which strongly tend to close the sides or arms together. This may be done in several ways, but a very convenient way is shown in Figs. 1, 2, & 3.

I extend the joint pins *e*, e^1 upwards to receive the spiral springs *j*, j^1 the one end of such springs impinging upon the arms and the other against the cross connecting plate *k*.

Also I provide a spring or springs tending strongly to lift the basket apparatus hinged upon the swivel joint *c*. Upon the base bracket *a* I provide a hole through which passes the pin *l*, and upon which I mount the depending lifter *m*, which latter impinges upon the extended projection *n* upon the swivel block *d*. Between the two sides of the base bracket *a*, and the depending lifter *m*, I mount a spiral spring *o*, which may be in two parts or, in one part (as shown), which said spring always strongly tends to lift the basket apparatus; their parts are shewn in detail in Figs. 5, 6, 7, 8 & 9.

When "set" or extended, however, this lifting is prevented by reason of the projection *p* upon the arms *f f*^{1} coming against the stop *q* upon the base bracket *a*; but when the sides have moved through a certain distance as seen in Fig. 5, such projections (*p*) are free of the stops *q*, and subject to the lifting force of the springs.

Instead of arranging the arms to work or swivel in an horizontal plane, I may provide that one of such arms shall swivel in a vertical direction similar as shown in Figs. 10, 11, & 12.

In this case the two arms constitute a top and bottom net or basket, the bottom one being stationary and carried from the base bracket *a*^{1}, while the top one is carried from the said base bracket thus :—

Provision is made whereby the said top arm may have a vertical swivel motion, and also a longitudinal motion.

This I carry out by forming the upper part of the base bracket into a somewhat channel form, to receive between its two sides the fulcrum end of the top arm. In these two sides I provide a slot *t*, through which passes the joint pin *n*, which said pin also passes through the top arm, thus forming a joint.

The rear end of the top arm is extended at *v*, in order that it may butt against the stop piece *w* upon the base bracket *a*^{1}, while at *x* provision is made to receive the one end of a spring *y*, the other end of which is secured to the back part of the base bracket *a*^{1}.

In order to further ensure the prevention of any part of the obstruction reaching the ground I may if desired provide a projecting flap *r* hinged upon the lower part of the basket frame, and held down to a given extent (within a short distance of the ground) by the spring *s*. See Figs. 1 & 2 & 4.

This flap would preferably be made of leather or other suitable substance, that would yield somewhat, but yet afford substantial support.

Should this flap in journeying, pass over raised or uneven ground, provision is made whereby it shall rise thereover by means of ball rollers or casters *z*, being fixed underneath.

In order to ensure the disjointing or separation of the distending arms *i*, *i*^{1}, should the obstruction not strike it fair, I may extend from such arms if desired, subordinate arms or pieces, offering a wider scope or field to meet the approach of any obstruction.

Thus the action of the apparatus Figs. 1 to 9 inclusive, would be somewhat as follows:—The sides being distended and there held by the ball and socket ended arms, the apparatus would be ready for action.

Upon meeting with an obstruction, say for instance, a person who could not get out of the way in time, such person would come in contact first with the distending arms, which would at once release such a catch motion, when the springs would immediately close the sides together, embracing within its folds the person, and at the same time the vertical action of the springs would then lift such person off the ground, and carry it forward until released therefrom.

In the case of Figs. 10, 11 & 12, the obstruction would similarly be struck first by the bottom bracket and thrown against the releasing arms *i*, *i*^{1} or come in direct contact with the arms *i*, *i*^{1} when the top arm would fall upon and at the same time pull inwards into the basket such obstruction.

I may attach one or more of such apparatus to the engine or other vehicle as may be desired or convenient.

Having now particularly described and ascertained the nature of this my said invention and in what manner the same is to be performed, I declare that what I claim is :—

1st. The combination and arrangement of the parts constituting the mechanism, whereby the two arms or baskets are distended, and closed to embrace an obstruction, substantially as described and illustrated in Figs. 1 to 9 inclusive.

2nd. The combination and arrangement of the parts constituting the mechanism, whereby the distended arms or baskets are closed and then lifted upwards, substantially as described and illustrated in Figs. 1 to 9 inclusive.

3rd. The combination and arrangement of the parts constituting the modification illustrated in Figs. 10, 11, & 12, whereby the top arm is made to fall over the obstruction, and pull it inwards into the bottom basket, substantially as described and illustrated.

Dated this 25th day of May 1888.

CHARLES T. POWELL,
Applicant's Agent.

LONDON : Printed for Her Majesty's Stationery Office,
By DARLING AND SON, LTD.

1888.